HANDBOOK/MANUEL/HANDBUCH/HANDLEIDING/MANUAL P1000

Arcam P1000 multi-channel power amplifier

English

Amplificateur de puissance P1000 Arcam

Français

Mehrkanal-Verstarker Arcam P1000

Deutsch

Arcam P1000 eindversterker

Nederlands

Amplificador multi-canal Arcam P1000

Português



ARCAM

Safety guidelines



CAUTION: To reduce the risk of electric shock, do not remove cover (or back). No user serviceable parts inside. Refer servicing to qualified service personnel.

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

The lightning flash with an arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated 'dangerous voltage' within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

CAUTION: In Canada and the USA, to prevent electric shock, match the wide blade of the plug to the wide slot in the socket and insert the plug fully into the socket.

Important safety instructions

This product is designed and manufactured to meet strict quality and safety standards. However, you should be aware of the following installation and operation precautions:

1. Take heed of warnings and instructions

You should read all the safety and operating instructions before operating this appliance. Retain this handbook for future reference and adhere to all warnings in the handbook or on the appliance.

2. Water and moisture

The presence of electricity near water can be dangerous. Do not use the appliance near water – for example next to a bathtub, washbowl, kitchen sink, in a wet basement or near a swimming pool, etc.

3. Object or liquid entry

Take care that objects do not fall and liquids are not spilled into the enclosure through any openings. Liquid filled objects such as vases should not be placed on the equipment.

4. Ventilation

Do not place the equipment on a bed, sofa, rug or similar soft surface, or in an enclosed bookcase or cabinet, since ventilation may be impeded. We recommend a minimum distance of 50mm (2 inches) around the sides and top of the appliance to provide adequate ventilation.

5. Heat

Locate the appliance away from naked flames or heat producing equipment such as radiators, stoves or other appliances (including other amplifiers) that produce heat.

6. Climate

The appliance has been designed for use in moderate climates.

7. Racks and stands

Only use a rack or stand that is recommended for use with audio equipment. If the equipment is on a portable rack it should be moved with great care, to avoid overturning the combination.

8. Cleaning

Unplug the unit from the mains supply before cleaning.

The case should normally only require a wipe with a soft, damp, lint-free cloth. Do not use paint thinners or other chemical solvents for cleaning.

We do not advise the use of furniture cleaning sprays or polishes as they can cause indelible white marks if the unit is subsequently wiped with a damp cloth.

9. Power sources

Only connect the appliance to a power supply of the type described in the operating instructions or as marked on the appliance.

The primary method of isolating this product from the mains supply is by disconnecting the mains plug from the supply. This unit must be installed in a manner that leaves the mains plug accessible.

This is a Class 1 device and must be connected to a mains socket outlet with a protective earthing connection.

10. Power-cord protection

Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs, and the point where they exit from the appliance.

11. Grounding

This is a class 1 product and requires an earth connection.

Ensure that the grounding means of the appliance is not defeated.

12. Power lines

Locate any outdoor antenna/aerial away from power lines.

13. Non-use periods

If the unit has a stand-by function, a small amount of current will continue to flow into the equipment in this mode. Unplug the power cord of the appliance from the outlet if left unused for a long period of time.

14. Abnormal smell

If an abnormal smell or smoke is detected from the appliance, turn the power off immediately and unplug the unit from the wall outlet. Contact your dealer immediately.

15. Servicing

You should not attempt to service the appliance beyond that described in this handbook. All other servicing should be referred to qualified service personnel.

16. Damage requiring service

The appliance should be serviced by qualified service personnel when:

A. the power-supply cord or the plug has been damaged, or
B. objects have fallen, or liquid has spilled into the appliance, or
C. the appliance has been exposed to rain, or
D. the appliance does not appear to operate normally or exhibits a marked change in performance, or
E. the appliance has been dropped or the enclosure damaged.

Safety compliance

This product has been designed to meet the IEC 60065 international electrical safety standard.

Using this handbook

This handbook has been designed to give you all the information you need to install, connect, set up and use the Arcam DiVA P1000 multi-channel power amplifier.

It may be that the P1000 has been installed and set up as part of your Hi-Fi or home cinema installation by a qualified Arcam dealer. In this case, you may wish to skip the sections of this handbook dealing with installation and setting up the unit. Use the contents list to guide you to the relevant sections.

Safety

Safety guidelines are set out on the opposite page.

Many of these items are common sense precautions, but for your own safety, and to ensure that you do not damage the unit, we recommend that you read them.

This is a class 1 product and **must** be earthed.

Contents

The small print:

Getting started with your P1000

Introduction

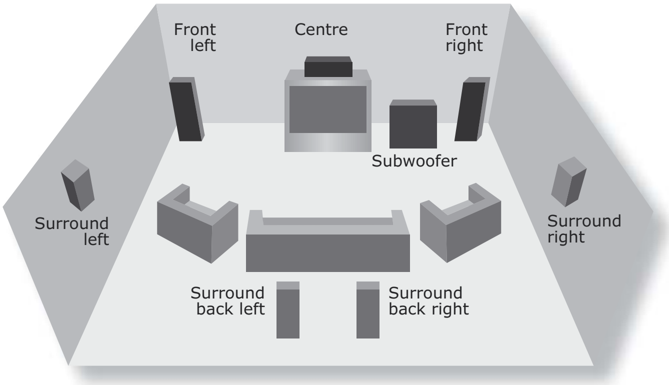
The P1000 multi-channel power amplifier is built to Arcam's traditional high quality design and manufacturing standards. It is an extremely high-performance amplifier, offering up to 135W per channel. While obviously well-suited to multi-channel home cinema amplification, additionally it provides superb stereo performance with two-channel sources. The P1000 is an ideal partner for the Arcam DiVA AVP700 Pre-amp Processor.

Each of the amplifier modules within the P1000 is identical, so each channel of amplification has the same performance. The P1000 has input and output phono sockets for the signal being fed to each channel, which allows the signal to be passed on to additional power amplifiers, if required, to drive loudspeakers in other rooms or to bi-amplify any channels. If the P1000 is being used to drive a five-channel surround sound system, for example, then the spare two modules ('L surround rear' and 'R surround rear') could be used in conjunction with the main ('L front' and 'R front') modules to bi-amplify suitable front left and right speakers.

We anticipate that the P1000 will give you many years of home cinematic enjoyment.

Speaker Installation

The P1000 allows connection of up to seven loudspeakers. All speakers, with the exception of the subwoofer, should be arranged around your normal viewing/listening position (see diagram). The subwoofer can be placed almost anywhere and we recommend experimenting with it in various positions to obtain the best result.



Position your front left and right speakers to achieve a good stereo image for normal musical reproduction. If they are placed too close together there will be a lack of spaciousness. Alternatively if they are placed too far apart the stereo image will appear to have a large hole in the middle and will be presented in two halves.

The centre speaker allows for a more realistic reproduction of dialogue and centre sounds as well as wider and better imaging for stereo effects and background sounds for home cinema use. Do not compromise on the quality of your centre speaker as it carries all the dialogue for a home cinema system.

The surround left and right speakers reproduce the ambient sound and effects present in a multi-channel home cinema system.

The surround back left and surround back right speakers are used to add extra depth, a more spacious ambience and sound localisation.

A subwoofer will improve the bass performance from your system. It is useful for reproducing special cinema effects, especially where a dedicated LFE (Low-Frequency Effects) channel is available, as with Dolby Digital– or DTS Digital Surround–encoded discs.

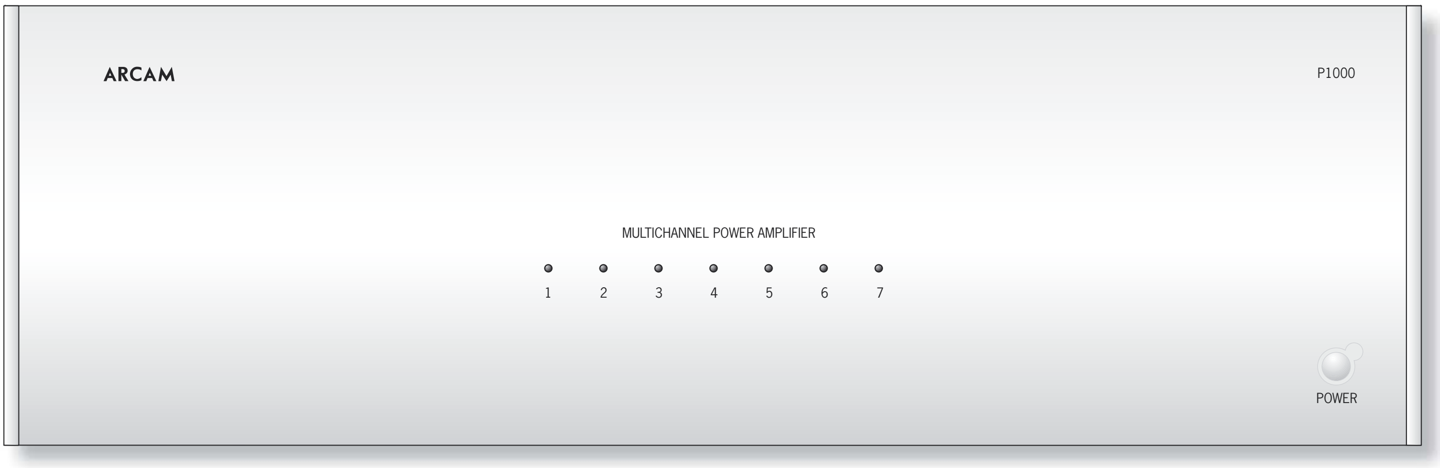
Cables

We recommend the use of high-quality screened analogue, digital and video cables as inferior-quality cables will degrade the sound and picture quality of your system. Only use cables that are designed for the particular application as other cables will have different impedance characteristics that will degrade the performance of your system (do not use audio cables to carry video, for example). Speaker-cable length should be a short as practically possible, but pairs of cables (the cables to the front-left and front-right speakers, for example) should be of similar lengths.

We advise routing the interconnect cables, speaker cables and mains-power cables away from each other to minimise interference.

If you require help chosing suitable cables, please contact your dealer or installer.

Operating your P1000



Power

The P1000 front panel has a single control: a power on/off button, located on the right.

The power button switches the P1000 in to and out of stand-by. To switch the unit off completely, use the switch on the rear panel. Conversely, if the P1000 fails to power on when the button on the front panel is pressed, ensure that the switch on the rear panel is in the 'on' position.

When the unit is mains powered but in standby mode, the LED next to the power button is red. In normal use, the LED is green.

Switching on

It is recommended that you switch on your pre-amplifier or controller before powering up the P1000, as this will reduce the chance of any 'thumps' being fed through to the power amp.

Switching off

To shut down, switch the P1000 off first, followed by the pre-amp. or controller.

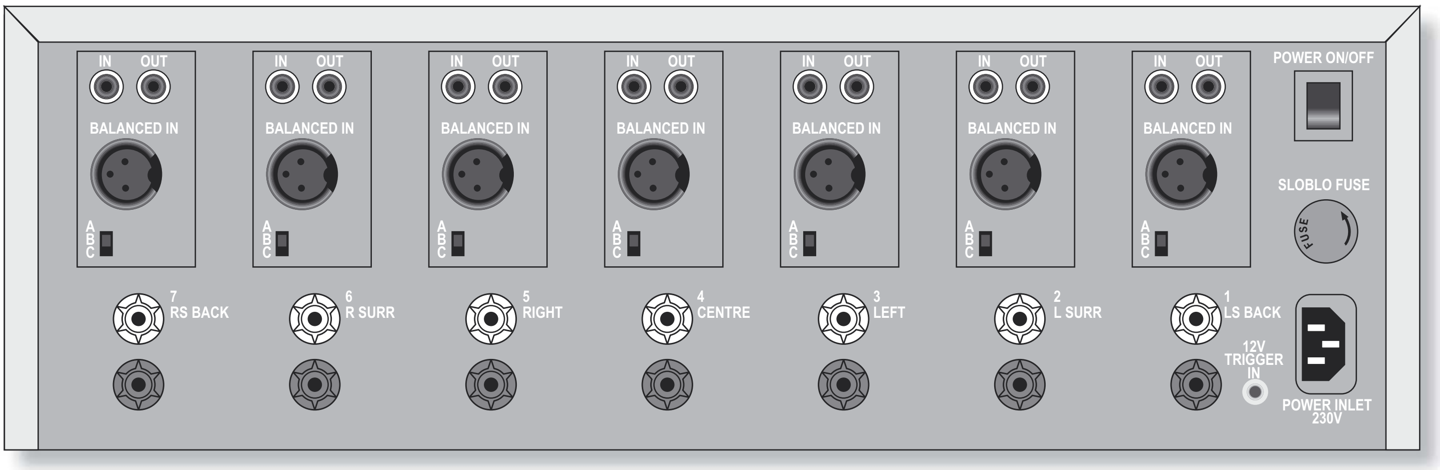
Channel-status indicator lights

Each channel of amplification on the P1000 has a unique status-indicator light.

On power-up, the lights change from amber to green, which indicates the change in status from initialising to active. All lights are switched off in stand-by mode.

If the status lights do not follow this sequence when the P1000 is powered up, or behave abnormally at any time during use, refer to the table on page 10 to determine the problem.

Installation



Positioning the unit

- Place the amplifier on a level, firm surface.
- Avoid placing the unit in direct sunlight or near sources of heat or damp.
- Do not place the unit on top of another power amplifier or other sources of heat.
- Ensure adequate ventilation.
  If the unit is placed in an enclosed space, such as a bookcase, equipment rack or cabinet, make sure that there is adequate space and ventilation in the enclosure for air to flow through the ventilation slots and cool the amplifier. Inadequate cabinet ventilation may cause the P1000 to shut down due to thermal overload.

  The amplifier will run warm, even during normal operation.
- Ensure that the equipment rack or stand can support the weight of the P1000.

Connecting to a pre-amplifier

Two different connection types are provided for receiving signals from your pre-amplifier. The connection type to use depends on the set-up that you have.

1. If the cables to be used to connect your pre-amp. to the P1000 are less than 3m long, we recommend connecting your pre-amp. to the phono sockets of your P1000.
2. If the cables to be used to connect your pre-amp. to the P1000 are 3m or longer and your pre-amp. has balanced outputs, we recommend using these instead of the phono connections. Performance will also be improved in electrically-noisy environments by using these connections.

While it is acceptable to mix balanced and phono connections between your pre-amp. and P1000 (should you wish), **do not** connect both balanced and phono inputs to any single channel.

General connection advice

The outputs from your pre-amp. should be connected to the **AUDIO IN** inputs on the P1000. It is helpful to connect the pre-amp. output for a given channel to the input for that particular channel on the P1000. For example: connect the left-surround output from your pre-amp. to the left-surround channel input of the P1000. There is no technical improvement in following this strategy, but it makes life easier.

If you wish to use two modules to bi-amplify a pair of speakers, or would like to bi-amplify using another power amp., then you can take the signal for that channel (using the **AUDIO OUT** phono socket for that channel) and feed it on to the additional module(s). The signal is then fed in to the first module, but also fed on to the second module so that both modules can bi-amplify the loudspeaker. See ‘Bi-amping’ on page 8 for more information. Note that bi-amping in this way requires the use of phono connections between your pre-amp. and the P1000.

12V Trigger input

If your pre-amp. provides a 12V Trigger output, it can be connected to the **12V TRIGGER IN** socket using a 3.5mm jack. This enables the P1000 to be turned on remotely from the pre-amp.

Note that the trigger input is active only when the power button on the rear panel is in the ‘on’ position.

The 12V-trigger uses a 3.5mm mono jack plug, wired as follows:

- *Sleeve: Ground*
- *Tip: Active*

Connecting to loudspeakers

Wiring strategies

There are three different wiring strategies that can be employed to connect your P1000 to your speakers. Your choice will be limited by what your speakers can support.

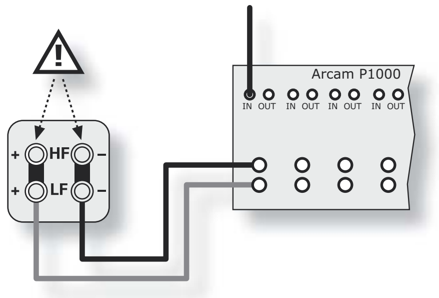
- **Single wiring**
  Single wiring is the conventional wiring system of running a single cable per channel between the amplifier and the speaker.
- **Bi-wiring**
  Bi-wiring is running two separate cables between the amplifier and each speaker, with one cable carrying the low-frequency information, the other the higher-frequency signals. Any amplifier can support bi-wiring, but speakers support it only if separate connection terminals are provided for the two cables (the speaker will have two pairs of terminals on the back, one pair labelled HF or High Frequency, the other pair labelled LF or Low Frequency). Bi-wiring improves the sound of your system because the separation of high and low frequency signal currents into separate speaker cables avoids distortions caused by the different currents interacting with one-another within a single cable, as occurs in conventionally wired systems.
  Note that some speakers have three pairs of terminals on the back, extending the bi-wiring principle to tri-wiring.
- **Bi-amping**
  The performance of your system can be enhanced further by extending the signal-separation principle to include separate amplification for the low- and high-frequency drivers in each speaker. You will require two amplifiers to do this.

Before you start!
Ensure that your P1000 is switched off and disconnected from the mains supply before attempting to connect speakers.
Failure to do this may result in both speaker and amplifier damage.

Single wiring

The speaker terminals for any given channel are labelled clearly on the rear of the P1000. For each channel, connect the positive terminal of the speaker connection on the P1000 for that channel (coloured red and labelled with '**+**') to the positive terminal of your speaker for the channel (connect, for example, the positive terminal of the centre channel of the P1000 to the positive channel of your centre speaker). Similarly, connect the negative terminal of the amplifier (coloured black and labelled with '**–**') to the negative terminal of your speaker. If your speaker supports bi-wiring (i.e., it has more than one set of connecting terminals), but you do not wish to use bi-wiring, connect the P1000 to the terminals labelled LF or Low Frequency. There should be a strip of metal on the speakers connecting the low-frequency terminals to those for the higher-frequencies; this must **not** be removed in a single-wired system.

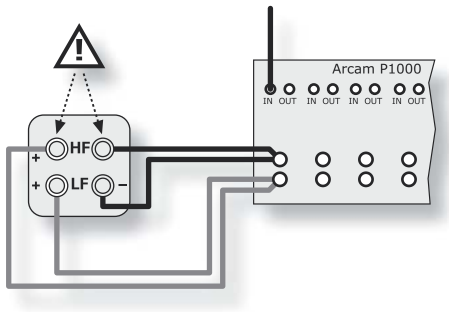
Follow the above instructions for each speaker in your system, ensuring that the speakers are connected to the correct output of the P1000. You do not have to connect speakers to all the channels of the P1000 (e.g., if you don't have a centre speaker, it doesn't matter).



P1000 single wiring illustration (just one channel shown, for clarity).

Bi-wiring

Bi-wiring is performed in the same way as single wiring except that, for each speaker, a **pair** of cables is used to connect the positive terminal of the amplifier to the speaker. One of the cables must be connected to the lower of the two positive terminals on Alto, with the other cable connected to the higher positive terminal. The negative terminals must be connected in a similar manner. The connecting strip of metal on the speakers connecting the lower terminals to the upper terminals must be removed for bi-wiring.

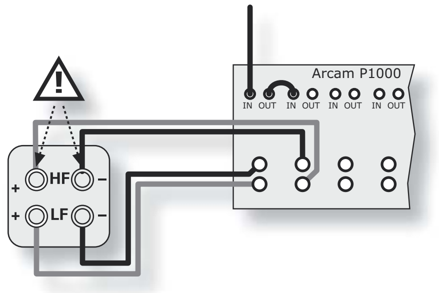


P1000 bi-wiring illustration (just one channel shown, for clarity).

Bi-amping

Bi-amping requires the use of a second amplifier: one amplifier is used to drive the treble speakers, the other is used for the lower (bass) frequencies.

For the cables, bi-amping is much like bi-wiring. Connect the speaker terminals from one module (channel) to one pair of terminals on your speaker. Connect another module, or one channel of a separate power amp., to the other pair of terminals on the speaker, so that two amplifier channels are connected to that speaker; one for low frequencies and one for high frequencies. The treble (higher) terminals of your speaker should be connected to the speaker terminals of the amplifier module (channel) being used for the high frequencies, while the bass (lower) terminals of your speaker should be connected to the speaker terminals of the amplifier or module (channel) being used for the lower frequencies. The strip of metal on the speakers connecting the lower terminals to the upper terminals **must be removed**. Failure to do so will result in damage to both amplifiers.



P1000 bi-amping (two amplifier modules for a single channel).

Notes on making speaker connections

- Do not make any connections to your amplifier while it is switched on or connected to the mains supply.
- Always ensure that the volume control on your pre-amplifier is set to minimum before starting to make connections.
- Before switching your P1000 on for the first time after connecting to speakers, please check all connections thoroughly. Ensure that bare wires or cables are not touching the amplifier in the wrong places (which could cause short circuits), and that you have connected positive (+) to positive and negative (-) to negative.
- After making connections, turn the volume down to minimum on your pre-amplifier before switching the P1000 on. Switch the amplifier(s) on, select a source signal, then gradually increase the volume to the required listening level.
- If you are unsure as to how your system should be connected, or need advice on bi-wiring or bi-amping, please contact your Arcam dealer. Your dealer will be happy to help you.

Setting the amplifier gain

You may have noticed a small switch next to the speaker terminals for each channel on the rear of the product. This switch allows the gain of the amplifier to be set: move the sliders to the A, B, or C position, depending on the gain value that you require.

- **A**: This position means that the P1000 has a gain of 31.5dB, which is the usual gain for Arcam amplifiers. Use this setting if the P1000 is to be used either on its own, or in conjunction with other amplifiers from Arcam.
- **B**: This gives the P1000 a gain of 29dB, which is the gain used by THX™-compatible amplifiers. Use this setting the P1000 is to be used with other amplifiers that have a THX™ gain value, such as the Arcam P7. Note that the P1000 is not a THX™-rated product.
- **C**: This gives the P1000 a gain of 26dB. Use this setting if the P1000 is to be used with other amplifiers that have this gain.

Although the gain for each channel can be set independently, it is very unusual that different channels would be set to have different gains. **We recommend strongly that you set all amplifier channels to the same gain setting.**

Connecting to a power supply

Mains lead

The P1000 is normally supplied with a moulded mains-plug already fitted to the lead. If for any reason the plug needs to be removed, it must be disposed of immediately and securely, as it is a potential shock hazard when inserted into the mains socket.

Check that the plug supplied with the unit fits your supply and that your mains supply voltage agrees with the voltage setting (115V or 230V) indicated on the rear panel of the unit.

Should you require a new mains lead, or the voltage accepted by the unit does not match your supply, please contact your Arcam dealer.

Plugging in

Push the IEC-plug of the power cable supplied with the unit into the **POWER INLET** socket in the back of the unit. Make sure it is pushed in firmly.

Put the plug on the other end of the cable into your power supply socket and switch the socket on

Troubleshooting

No lights are illuminated

Please check the following items if no lights are illuminated on the P1000 when you think that it should be switched on.

- Is the power cord plugged into the P1000? Is the mains socket that it is plugged into switched on?
- Has the plug fuse failed, or a circuit-breaker earlier in the power supply path opened?
- Has the fuse in the rear panel (above the power inlet) failed? **Note that the fuse must be replaced with the same type**: if you require assitance with this, please contact your dealer.
- Is the power switch on the rear panel of the P1000 in the "on" position?

Red/amber light on the front panel

The table on page 10 gives details of the fault conditions indicated by different LED patterns, together with suggestions on correcting the fault.

No sound is produced

Please check the following items if no audio can be heard through your P1000.

- Are all the channel-indicator LEDs on the front panel green? Refer to the table on page 10 if you see other colours, or above if nothing is illuminated.
- Has the correct input been selected on the pre-amp. and is the selected source generating audio (the disk is playing, for example)? If possible, try plugging headphones into the pre-amp. to ensure that the audio is present at that point – if you cannot hear any audio through the headphones, then it is likely that the fault is between the audio source and your pre-amp.
- Is the volume on the pre-amp. turned up to a reasonable level? Is the pre-amp. muted?
- Are the connections between your pre-amp. and the P1000 made as described earlier in this handbook? Check also the connections between the P1000 and the speakers.

Sound is poor or distorted

If the sound coming from your P1000 is distorted, or is weak in some way (lacking in bass), please check the following items.

- Ensure that all cables (both interconnects and speaker cable) are making a good connection. Turn the P1000 off, withdraw each cable from the connector and plug it back in again. Switch the P1000 back on to see if the sound quality has improved.
- Check that you have selected the correct size of speakers to suit your system in the setup menu of the processor or pre-amp. Setting speakers to "Small", for example, may be the cause of weak bass. See the handbook of your pre-amp./processor for details.

Sound comes only from some of the speakers

If sound is coming from some speakers only (but those speakers are operating normally), please check the following items.

- Are all speakers in the system connected to the P1000?
- Have you configured your pre-amp. to include all the speakers in your system? See the handbook of your pre-amp./processor for details.
- Do you have an appropriate surround-sound source selected and playing through the pre-amp?
- For sources connected digitally to the pre-amp., check that the source is putting multi-channel data out. Some DVD players (for example) allow selection of the output format and also whether multi-channel data is down-mixed to PCM (stereo). See the handbook of your source for details.
- Ensure that the disc you are playing is a multi-channel recording and that the processor is putting multi-channel audio out.
- Check that your speaker balance is correct (see your pre-amp./processor handbook for details).
- Are all the channel-indicator LEDs on the front panel green? Refer to the table on page 10 if you see other colours.

Hum on an amplifier output

If you have a "hum" coming from one of the speakers, please check the following items.

- Does the hum originate from a ground loop caused by an aerial, satellite dish or cable supply (if the aerial is disconnected, does the humming stop)? Please contact your dealer or aerial contractor for further advice.
- Ensure that the interconnect and speaker leads are not wrapped around a mains lead.
- Try switching the ground lift on the pre-amp./processor, if available (see the handbook of your pre-amp. for details).

See also "Sound is poor or distorted", above.

There is radio/television reception interference

If you find that radio or television interference is present when the P1000 is switched on, but disappears when it is switched off, ensure that the aerial/dish cable to your TV or receiver is routed away from your P1000 and its cabling, and that the cabling used from the aerial/dish is of a high-quality (screened). Repositioning the receiving aerial/dish may bring an improvement.

- **If you are unable to rectify the fault after checking the items suggested above, please contact your dealer for advice.**

Fault status indicators

The light patterns described below indicate the following fault conditions:

Light pattern	Description	Amplifier action
All lights are green.	This is the normal operating state of the amplifier.	None.
The power light is amber and the channel lights are off.	A “DC offset” fault has occured. A DC offset fault can occur if an excessive DC voltage is present at the output of the pre-amp. feeding the P1000. Please see the note below.	The condition does not clear automatically. Simply to clear the fault, turn the P1000 off for at least 30 seconds (using the switch on the **rear** of the unit), then turn it on again. If the fault fails to clear using this method, or to verify excessive DC offset voltage, turn the P1000 off using the switch on the **rear** of the unit, remove the interconnect leads (with the P1000 switched off), then turn the P1000 on again. The fault should have cleared; if the power light is still amber then your P1000 has developed a fault. Switch the unit off and contact your dealer.
One or more channel lights are flashing amber/green.	A short-circuit fault has occured. The flashing light(s) represent the amplifier channels with the short-circuit.	The amplifier mutes the channel with the short-circuit. If the fault is cleared, the amplifier will resume normal operation. Note that audio must be fed to the channel for the short-circuit to be detected. For example, muting the output using your pre-amp. will make the fault appear to clear; it is likely that the fault condition will re-occur when the pre-amp. is unmuted, however, unless further action is taken.
One or more channel lights are amber.	An over-temperature fault has occured on a channel with the amber light.	The amplifer mutes the channel with the fault. The amplifier stays in this state until the channel has cooled. If this fault occurs frequently, ensure that the amplifier has adequate ventilation.

DC offset faults

A “DC offset fault” is not an amplifier fault, but a speaker protection mechanism. If the amplifier is supplied with a DC voltage (rather than the expected AC voltage) for an extended length of time, the coils in the attached speakers will eventually burn out (or, in extreme cases, catch fire). The P1000 can detect this condition, and cut the current to the speakers.

DC offset faults can occur intermittently in all set-ups, particularly if a tuner or satellite receiver is connected. If it occurs frequently or predictably, please contact your dealer for advice.

Technical specification

All measurements are with 230V/50Hz mains power Continuous output power	
All channels driven, 20Hz—20kHz, 8Ω	135W per channel; 945W total
All channels driven, 20Hz—20kHz, 4Ω	210W per channel; 1.47kW total
One or two channels driven at 1kHz, 8Ω	190W per channel
One or two channels driven at 1kHz, 4Ω	305W per channel
One or two channels driven at 1kHz, 3.2Ω	325W per channel
Peak output current capability	
	±20.5A per channel
Total harmonic distortion	
At any level up to rated power, into 4 or 8Ω	<0.08% maximum (20Hz—20kHz); typically <0.007% at 1kHz
Frequency response	
	±0.2dB (2Hz—50kHz) –1dB at 1Hz and 100kHz
Residual hum and noise	
Ref. full power	–110dB A weighted, or 100dB CCIR
Voltage gain	
	User selectable: A: x31.5dB B: x29dB C: x26dB
Input impedance	
	22kΩ in parallel with 180pF
Output impedance	
	20mΩ at 20Hz, 1kHz 80mΩ at 20kHz
Power requirements	
	115V or 230VAC, 50/60Hz, 2.2kW maximum via IEC mains inlet. A zero-crossing AC system eliminates large ‘transformer’ in-rush currents at switch on.
Physical	
	Dimensions: W430 x D400 x H133 mm Mass: 18kg (40 lb) net; 21kg (46 lb) packed

E&OE

Continual improvement policy

Arcam has a policy of continual improvement for its products. This means that designs and specifications are subject to change without notice.

All specification values are typical unless otherwise stated.

Radio interference

The P1000 is an audio device which has been designed to very high standards of electromagnetic compatibility.

The unit can radiate RF (radio frequency) energy. In some cases this can cause interference with FM and AM radio reception. If this is the case, keep the P1000 and its connecting cables as far from the tuner and its aerials as possible. Connecting the P1000 and the tuner to different mains sockets can also help to reduce interference.

EC Countries – These products have been designed to comply with directive 89/336/EEC.

USA – These products comply with FCC requirements.

Guarantee

Worldwide Guarantee

This entitles you to have the unit repaired free of charge, during the first two years after purchase, at any authorised Arcam distributor provided that it was originally purchased from an authorised Arcam dealer or distributor. Arcam can take no responsibility for defects arising from accident, misuse, abuse, wear and tear, neglect or through unauthorised adjustment and/or repair; neither can Arcam accept responsibility for damage or loss occurring during transit to or from the person claiming under the guarantee.

The warranty covers parts and labour costs for two years from the purchase date. After two years you must pay for both parts and labour costs. **The warranty does not cover transportation costs at any time.**

Claims under guarantee

This equipment should be packed in the original packing and returned to the dealer from whom it was purchased or, failing this, directly to the Arcam distributor in the country of residence. It should be sent carriage-prepaid by a reputable carrier — **not** by post. No responsibility can be accepted for the unit whilst in transit to the dealer or distributor and customers are, therefore, advised to insure the unit against loss or damage whilst in transit.

For further details contact Arcam at:

Arcam Customer Support Department,
Pembroke Avenue,
Waterbeach,
CAMBRIDGE, CB5 9QR,
England

Problems?

If you have a problem, always contact your dealer in the first instance. If your dealer is unable to answer any query regarding this or any other Arcam product please contact Arcam Customer Support and we will do our best to help you.

On line registration

You can register your Arcam product on line at: **www.arcam.co.uk**.